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NJDEP Comments to CSTAG and NRRB November 20, 2019

- Opening Statement
- Overview of Topics to be Covered
- Highlights of Project Background
- Highlights of Remedial Investigation
- Community Interest and current and future river use
- Improvements to Remedial Strategy

Lower Passaic River Background Highlights

- Dioxin as a special Contaminant of Concern
- 1995 to present: 30+ years of river remedial study
- March 2016 Lower 8 Mile Record of Decision (ROD)
- October 2018: NJDEP and USEPA signal support of interim remedial (IR) proposal by the Cooperating Parties Group (CPG)
- NJDEP Stipulations for IR support

NJDEP Interim Remedy Stipulations

- RI/FS work products remain open and active

- For river mile 8.3 – 15:

-- Reduce 2,3,7,8-TCDD post-remedial SWACs to not greater than 85 ppt by evaluating alternatives designed for 65ppt, 75ppt, 85ppt SWACs

-- Reduce total PCB post-remedial SWAC to not greater than 0.46ppm

- Post-remedy SWACs achieved soon after post-IR construction

- Consider “dredge to clean” where feasible

- Methods demonstrating IR success developed and principles for implementation will be reflected in the FS, Proposed Plan, and ROD

Remedial Investigation Observations relevant to Remedial Strategy

- Average 2,3,7,8-TCDD Levels of 900ppt with maximum up to 50,000ppt
- Sediment movement occurs on a finer spatial scale than existing models can accurately represent
- Difficulty differentiating between predominantly erosional, depositional, and cyclical depending on storm events
- Erosion and deposition of less than 6 in. is not reliably detected
- Upper 9 miles has slower expected recovery than lower 8 miles

Observed Community Interest

- From 1983, high community interest (CAG & Ironbound Coalition Group)
- Frustration persists that the Passaic River, a valuable natural resource, has been “off-limits”
- Goals centered on increased community access and full use of a healthy river
- Relying on the Agencies to ensure that concrete remedial goals met
- Supports use of an interim remedial action, provided it is robust and results in future clean-up levels protective of human health and the environment

Remedial Action Objectives

- December 2018: Jointly developed between USEPA, NJDEP, CPG

- RAO 1: Reduce SWACs to no greater than 85 ppt for 2,3,7,8-TCDD and no greater than 0.46 ppm for total PCBs

- RAO 2: Remediate additional areas outside of RAO 1 in erosional areas (6 inches or more) with sediment levels above surface RALs*
  - 2,3,7,8-TCDD at elevated levels* in subsurface sediment
  - total PCBs of 2 ppm in subsurface sediment (2 times surface RAL of 1 ppm)

* 1 – 2 times surface remedial action level (RAL)

Improvements to Remedial Strategy

- IR Remedial Action Objectives (USEPA Dec.2018) as <u>absolute goals</u>

- Due to project uncertainties, a precautionary approach for remedy selection is necessary to ensure goals are met

- Feasibility Study Observations and Comments
  - Comparative Analysis of Alternatives
  - Cap Design Protectiveness for increased intensity and frequency of storms
  - Appendix D: Proposed Adaptive Management
  - Appendix H: Proposed IR Completion Decision Framework

Comparative Analysis of Alternatives

Important differences overlooked for short term outcome and longer term (post-10 year) recovery

- FS states: no difference in level of source control between alternatives 2, 3 and 4.

- Modeling suggests that despite overlap of outcomes, more conservative alternatives lead to more conservative outcomes.

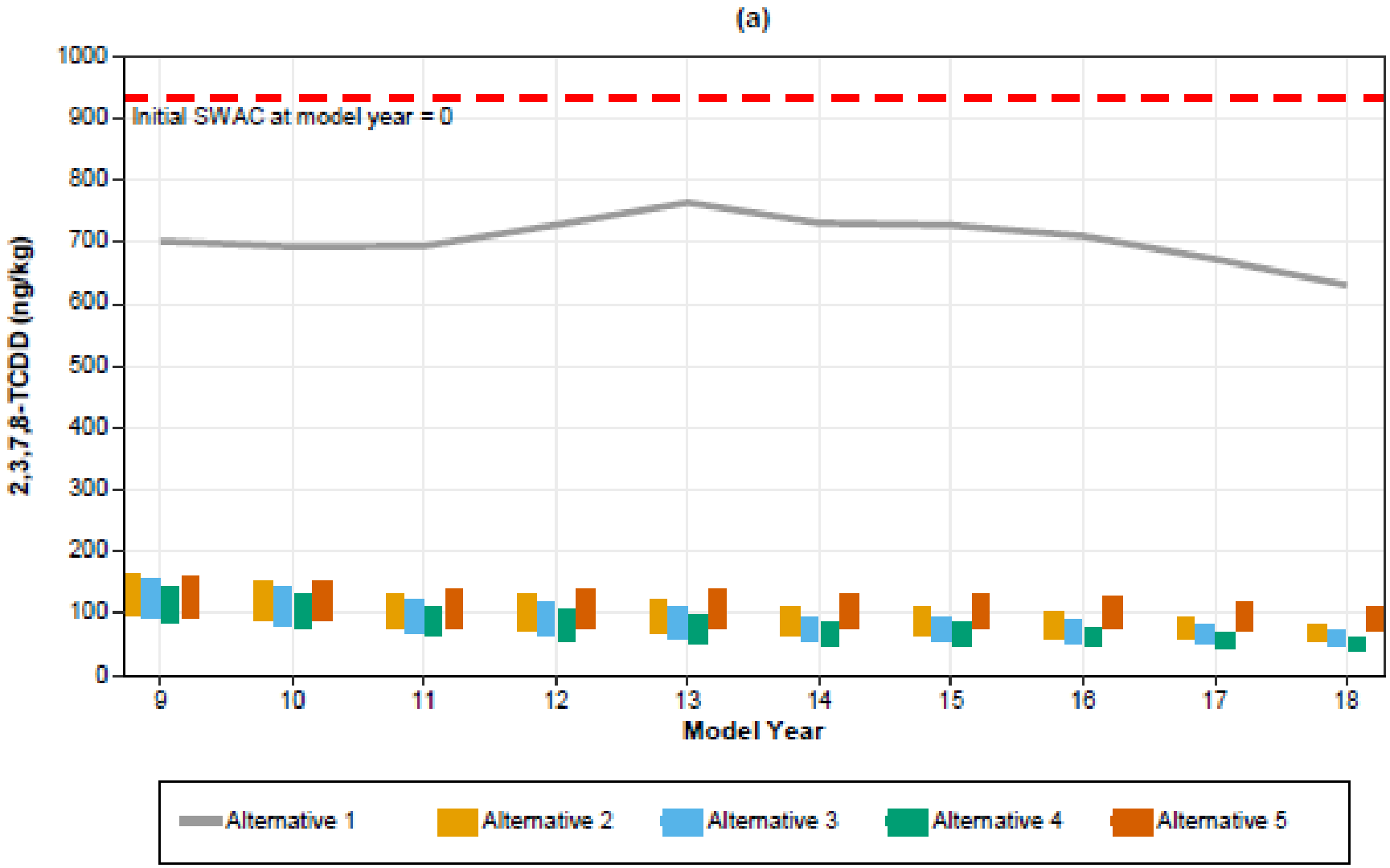

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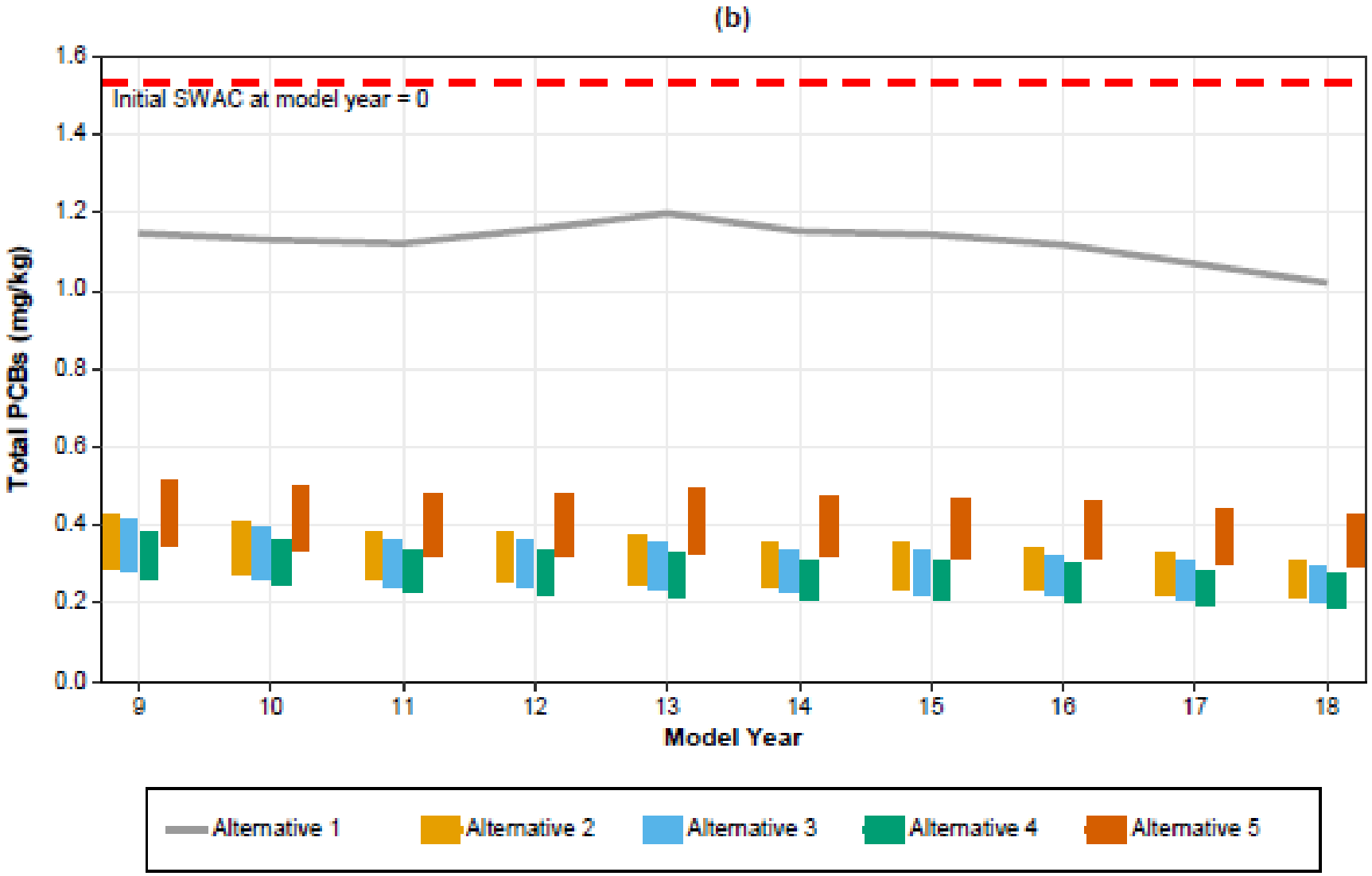
Figure 8-5.
Projected Annual SWAC of (a) 2,3,7,8-TCDD and (b) Total PCBs in RM 8.3 to RM 15 for Alternatives 1–5, 10 Years Post-construction



Note: Boxes represent projected range of sensitivity to selected model input parameters.

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Figure 8-5.
Projected Annual SWAC of (a) 2,3,7,8-TCDD and (b) Total PCBs in RM 8.3 to RM 15 for Alternatives 1–5, 10 Years Post-construction

Comparative Analysis of Alternatives

- The intended and quantifiable differences in source control should be acknowledged and weighed against the other balancing criteria

- Should also consider/compare alternatives for “likelihood of exceeding RAO1”, for example, Alt 2 > Alt 3 > Alt 4

Cap Design Protectiveness

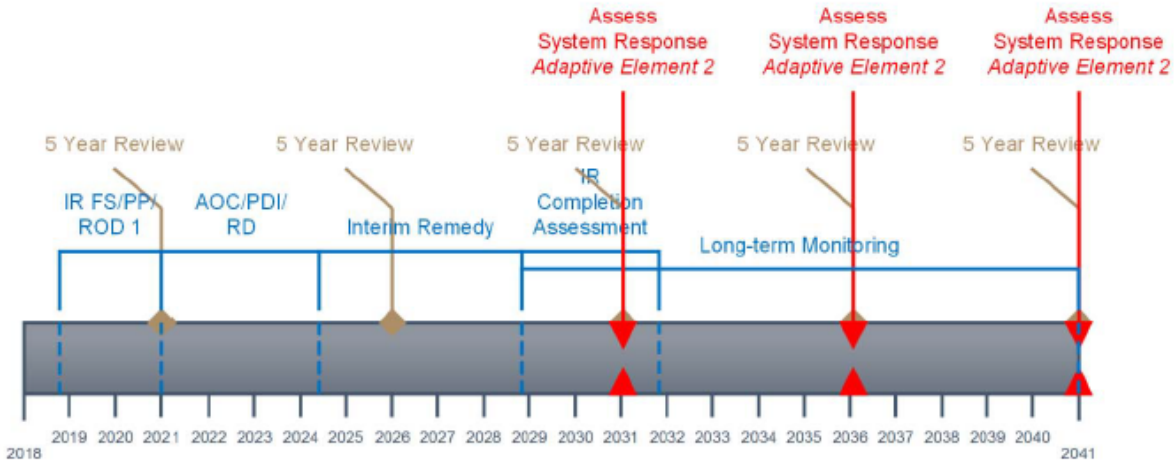
- Expected increased intensity and frequency of storms
- Consideration of cap protectiveness beyond 100-year storms
- Dredge to clean to avoid need for cap in applicable areas

Appendix D: Proposed Adaptive Management (AM)

Recommendations:

- Structure by remedial phase: design, construction, monitoring phases
- Current understanding of the river's CSM is critical to the success of the interim remedy
- Within AM process, testing of CSM hypotheses should be moved earlier than 2041 and improved by the development and testing of specific assumptions under each remedial phase

Interim Remedy Implementation and Performance Monitoring



System Response Not as Expected

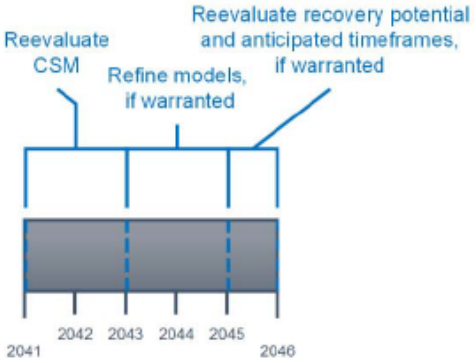


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Figure 4-1.
Timeline for Overall System Response

SRWMP

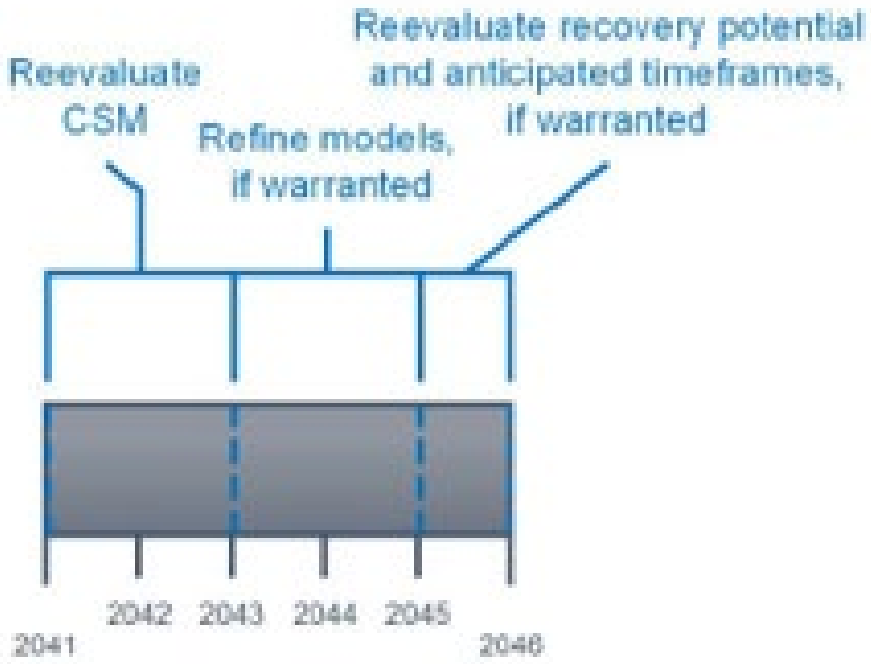

Figure 4-1.
Timeline for Overall System Response

Appendix D: Proposed Adaptive Management

Current proposal: a *range of PRGs* would be developed & periodically refined with no clear timeline

→PRGs are to be developed as soon as feasible, within Design Phase

→Revisions of PRGs are not expected unless new and significantly different CSM and toxicity information arises

Appendix H: Interim Remedial Completion Evaluation

- CPG views RAO 1 SWAC goals as “non-absolute”
  - methods to implement IR may become relaxed
  - methods to show attainment may become relaxed
- Non-attainment means longer recovery time for river
- Current proposal of IR completion *favors* IR completion regardless of statistical confirmation
- The greater concern from regulatory and remedial perspective: protecting against false positive errors, deeming the IR to be successful when in fact it is not statistically supported.

Appendix H: Interim Remedial Completion Evaluation

NJDEP preferred approach:

- Sufficiently-designed post remedial sampling program essential
- General agreement with EPA's July 2019 proposal with exception of:
- Y-Factor
  - Derived from future design information and constrained by an agreed-upon degree of equivalency to RAO 1 goals.
  - Concern: application of Y factor may extend numerical goal of IR completion
  - Methods to minimize Y are available and considered necessary

IR Completion Evaluation Framework

- Post-remedial Summary Statistics
  - Current proposal looks solely on upper confidence level and disregards the sample SWAC in informing whether the IR is complete
  - Standard practice to evaluate full distribution of dataset
  - More scenarios to prompt follow up action

Closing Statements

- CSTAG and NRRB input is highly valued to effectuate an improved remedial strategy for this project
- NJDEP Letter of November 14, 2019 describes the Department's concerns in greater detail
- Thank – you for your continued interest and support on this important remedial project within New Jersey